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ABSTRACT

This paper describes a prototype system developed for the Green Valley Area Educational Agency 14 in Iowa, which uses the Programming for Individualized Education (PIE) program and a Cluster/One Model A Nestar Micronetworking System to plan and store student records for developmentally disabled and other weighted special education students. The first section describes the software, which is an adaptation of an existing program to facilitate individualized education planning (IEP's) that was originally developed for the Maryland Department of Special Education. A list of functions performed by PIE and the proposed modifications to the PIE existing record format are provided. Background information explains the system features and describes its applications. A sample procedural tracking file for one student and an IEP form as they would look using the system are included. The required hardware to use the proposed system is outlined, including the types of computers, disk drives, terminal locations, interfaces, and network connections needed. A summary of specifications for the computer system and a diagram showing system input/output connections complete the paper. (LMM)

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Using the Apple II Microcomputer To Facilitate the Development of the Individualized Education Plan

a Prototype utilizing the Programming for Individualized Education (PIE) program and a Cluster/One Model A Nestar Micronetworking system to plan and store student records for developmentally disabled and other weighted special education students.

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Green Valley Area Education Agency 14
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Creston, Iowa 50801

Hardware, Software and Abstract of Design Plan

IR010615

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SOFTWARE DESCRIPTION:

With such a need for uniform data management in mind, Green Valley AEA 14 adapted an existing software program designed to facilitate Individualized Education Planning (IEP), called PIE (Programming for Individualized Education). Adapted from the Northstar original version to the Apple, PIE was originally developed for the Maryland Department of Special Education. As such it contains a number of safeguards, such as coded access, to protect client confidentiality. PIE performs a number of functions required regularly for special education students.

1) Maintains complete demographic profile
2) Maintains complete diagnostic/clinical file
3) Maintains complete intervention history for staffing, planning and documentation of all services from date of first referral.
4) Matches area of need with appropriate instructional objectives and materials/methods.

Presently the PIE program is set up for a two 5¼" disk drive Apple system. The PIE operations program resides on one 5¼" diskette, with room for 30 client files. The other drive is reserved for objective/materials files. Since the diskette holds 80 objectives, multiple file disks are required for Green Valley AEA's objective bank of over 5,000 objectives.

This project proposes to modify the existing record format to indicate these clients with specific disabilities, as described by State Social Services:

1) Mental Retardation
2) Cerebral Palsy
3) Epilepsy
4) Autism
5) Muscular Dystrophy
6) Spina Bifida
7) Down's Syndrome
8) Stroke
9) Multiple Sclerosis
10) Blind
11) Deaf
12) Arthritis
13) Cystic Fibrosis
14) Mental Illness
15) Emotionally Disturbed
16) Other

Present strengths and weakness classifications will be expanded to include severity rating scale, with functional limitations. The resulting scale will be developed cooperatively by project participants, and will be based on a similar scale, currently being used by State Services for Crippled Children.

PIE

PROGRAMMING FOR INDIVIDUALIZED EDUCATION

In a recent study of Public Law 94-142 (Education for All Handicapped Children Act), we found that individual teachers spend between five and fifteen hours per child per year developing and updating individualized education plans (IEPs). We also found that additional time is required for reoccurring routine tasks and large amounts of "paper work", often at the expense of instructional activities. Our PIE software program is designed to reduce excessive paper work, automate routine student recordkeeping tasks, and free-up valuable staff time for truly individualized programming activities.

PIE was developed by an experienced school psychologist to help reduce staff time in developing and maintaining individual student files in special education. No special knowledge of microcomputers or computer languages is necessary for the user to establish, update, and retrieve information from any child's file. Each individual file can include information on Identification Data, Reason for Referral, Referral Procedure Record, Observations, Test Data, Background History, Discussion, and Recommendations. These file categories contain the user prompts and related information which make the program so easy to use.

For example, the Referral Procedure Record lists the administrative procedures which must be completed in processing a child into a special education program. As each procedure is completed, a record is established identifying the completion date and the responsible staff person. The next referral procedure to be completed is highlighted to inform the user of the status of the entire process.

Another example is the file section on Recommendations which contains skills or activities necessary to meet each objective in the IEP. These can be produced based upon the scores obtained for a certain test in the Test Data section or can be developed locally and added to the software program when it is first installed.

A particularly important feature of PIE software is the built-in capability for the user to scan all student files for common characteristics to obtain information for reports or placement grouping considerations. A valuable tool!

PIE software also allows the user to scan all files and perform an automated analysis of test scores including mean, standard deviation, tests of statistical significance, and categorical totals.

PIE has built-in flexibility to accommodate special needs of individual buildings and districts. The software has been developed to allow easy modification at a later time; it will accommodate common, uncommon, or unique pupil tests; and it will incorporate up to four pages of written text in the categories of referral, observation, history, discussion, and recommendations.

All or part of the information in each child's file can be viewed on the video screen or printed out in a well-organized report format. Information in each file can be changed or updated at any time. To guarantee confidentiality, access to the file is limited to authorized staff through the use of security codes.

PIE software is intended to run on the APPLE, TRS-80, PET, and North Star microcomputers. It requires 16K memory, two disk drives, video screen, and dot matrix or formed character printer with tractor feed.

It takes about one school day to train users. The procedures are easy to learn with input, output, and analysis prompts directing the user through the entire program. The accompanying user manual provides supplementary and refresher material for the user after training.

The PIE software package is ready-to-run but does require some modification to customize its operation to the particular procedures and formats utilized within each district. The total price for installing, normal customizing, and one day of training is in the range of $2,500 to $3,000 for PIE. Other changes can be made in the software to accommodate unusual or unique practices. These changes would be an additional expense to the purchaser at a nominal daily rate. We would present all costs for your consideration prior to actual purchase.

Write or telephone us directly to obtain any additional information you may need and a quotation on the cost of purchasing PIE software for your agency.

Microcomputer Education Applications Network

256 NORTH WASHINGTON STREET
FALLS CHURCH, VIRGINIA 22046

(703) 536-2310

PROCEDURAL TRACKING FOR MICHAEL SMITH
LAST UPDATE ON 8/28/81
TODAY'S DATE: 10/1/81
STATUS IS ONGOING

THE PROCEDURAL EVENTS	DATES	WHO	REM	STATUS
REFERRAL RECEIVED	3/5/79	SS	L	COMPLETED
PARENT NOTIF.- REFERRAL	10/11/80	66	J	COMPLETED
INITIAL MEETING: SCHOOL	2/16/81	SS	F	COMPLETED
PARENT REQ.-INDIV.EVAL.	5/26/81	SS	S	COMPLETED
PARENT PERMISSION RCVD.	__/__/__	---	---	---
VISION SCREENING	__/__/__	---	---	---
HEARING SCREENING	__/__/__	---	---	---
EDUCATIONAL ASSESSMENT	__/__/__	---	---	---
ADDITIONAL ASSESSMENT	__/__/__	---	---	---
PARENT NOTIF. SCREENING	__/__/__	---	---	---
PLACEMENT/IEP MEETING	__/__/__	---	---	---
PARENT NOTIF-IEP RESULT	__/__/__	---	---	---
PARENT SIGNATURE - IEP	__/__/__	---	---	---
SERVICES INITIATED	__/__/__	---	---	---
PARENT NOTIF-60 DAY RVW	__/__/__	---	---	---
60 DAY REVIEW	__/__/__	---	---	---
PARENT SENT 60 DAY REVW	__/__/__	---	---	---
PARENT NOTIF-ANNUAL RVW	__/__/__	---	---	---
ANNUAL REVIEW	__/__/__	---	---	---
PARENT SENT SUM.ANL.RVW	__/__/__	---	---	---

GREEN VALLEY AEA 14
SPECIAL EDUCATION
INDIVIDUALIZED EDUCATIONAL PROGRAM - PART 1
1981-1982

NAME: SMITH, MICHAEL KURT
D.O.B. 3/12/63 GRADE: 12
SCHOOL: HILLANDALE HIGH

IEP IMPLEMENTED: __/__/__
IEP COMPLETED: __/__/__
PROJECTED DURATION ONE YEAR

TESTS ADMINISTERED	DATES	RESULTS

PRESENT LEVEL OF STUDENT'S ACADEMIC PERFORMANCE: READING -3.5 MATH ___

STRENGTHS:

NEEDS:

LRE CATEGORY = 3

SPECIAL ED/RELATED SERVICES - HRS/WK.	
INSTRUCTION	1
SPEECH/LANGUAGE THERAPY	2
PHYSICAL THERAPY	3
SPECIAL PHYSICAL EDUCATION	4
OCCUPATIONAL THERAPY	5
SPECIAL VOCATIONAL	6
HOME TEACHING	7
OTHER_____	8

REGULAR EDUCATION PROGRAMS - HRS/WK.	
LANGUAGE ARTS/ENGLISH	10
MATHEMATICS	11
SOCIAL STUDIES/HISTORY	12
PHYSICAL SCIENCES	13
PHYSICAL EDUCATION	14
MUSIC	15
ART/FINE ARTS	16
INDUSTRIAL ARTS	17
MEDIA	18
VOCATIONAL	19
ELECTIVES	20
OTHER_____	21

EDUCATIONAL GOALS:

HARDWARE DESCRIPTION:

The P.I.E. program will be used to store and access all Green Valley Area Education Agency 14 records on any student referred for Special Education. The existing program will be modified to include data and criterion as mentioned in the Software Description.

The P.I.E. program and all the files created will be stored on the Nestar hard disk drive. This drive will provide a large memory (33 mg.), equally accessible to all project participants. This memory will be backed up by daily loading current data onto a cartridge tape recorder. Should any accident occur with the drive, it will not impair the existing data base.

The disk drive will be accessed by seven Apple II 48K Microcomputers, one of which will serve as a central operator for all the others. Three of the Apples will be located in the same building as the hard disk drive and tape backup, at the Green Valley Area Education Building in Creston. One each will be located in the offices of the Southwest Iowa Sheltered Workshop, District Social Services Office and Southern Iowa Residential Facilities. The three latter Apples will access the system through phone lines, via phone modems connected to their systems. In this way the remote sites will have equal access to the system memory. Within the Green Valley Area Education Building the Apples will be connected by cable to the hard disk drive. One Apple will be dedicated to operating the system and answering the phone modems; the other two will be used by the Special Education Records Secretary and the Special Education Computer Specialist respectively. The latter will serve as coordinator of the Project.

Each participating agency will have an Apple Disk I Drive, which will allow loading large files from the central memory to the individual unit. In this way each user can work with large amounts of data, while tieing up the network system a minimum amount of time. This will allow more users to be connected in the future.

Each participant will have an Apple Silent Type - a small, inexpensive printer, which will allow the user to convert to hard copy, any data shown on the monitor (video) screen. This will be especially useful in client planning, when requiring documentation or state reports. Although not participating fiscally, Crossroads and the Regional Housing Authority will supply pertinent data for input into the system's data base.

The resulting computer system will possess the capability of being interfaced with other larger systems, either anticipated or in use by the Department of Social Services or the Department of Public Instruction. Through an RS 232 Port, the Apple can be linked directly with most main frames, including Burroughs, IBM, and Honeywell. Upon the availability of a system at the state level, capable of receiving the data gathered by the project's participating agencies, such potential will be fulfilled.

Cluster/One "Model A"

Summary of Specifications

FLOPPY DISK SUBSYSTEM

1. Formatted capacity (two drives): 1260 Kbytes.
2. Media: 8" single density, double sided, soft sectored.
3. Transfer rate: 250K bps into buffer, 83 msec average rotational latency, 6 msec per track seek time.
4. Mechanical: 20" wide x 10" high x 19" deep; 92 lbs. All steel cabinet (white with black trim).
5. Electrical: 105-125 VAC, 60 Hz. 200 watts maximum, 3 amp fuse. Other voltages available as options.
6. Approvals: UL listed, Office Appliance and Business Equipment.
7. Interface provided for installation in the Apple which is the central controller.

HARD DISK SUBSYSTEM

1. Formatted capacity: 16.5 Mbytes standard, 33 Mbytes optional.
2. Media: 14" Winchester technology.
3. Transfer rate: 300K bps into buffer, 15 msec average rotational latency, 43 msec average seek time.
4. Mechanical: 19" wide x 9" high x 29" deep, 110 lbs. All steel cabinet (white).
5. Electrical: 100-115 VAC, 60 Hz, 425 watts maximum, circuit breaker protection. Other voltages available as options.
6. Approvals: UL listed.
7. Interface provided for installation in the Apple which is used as the central controller.

CLUSTERBUS NETWORK

1. Cables: 16 wire flat cable (0.8" wide) with IDC pin connectors, or 15 wire round cable (0.37" diameter) with DB-15 connectors.
2. Maximum number of user stations per bus: 64.
3. Network topology: unconstrained tree (e.g., daisy chain, star, or combinations). Each interface has two bus connectors and cable tees are available.
4. Maximum total bus length: 1000 feet.
5. Transfer rate: approximately 240K bps.
6. Transfer protocol: packetized message blocks sent between any two stations.
7. Reliability features: redundancy checks on all addresses and data, packet retransmission as necessary, timeouts to avoid lockups.

APPLE INTERFACE

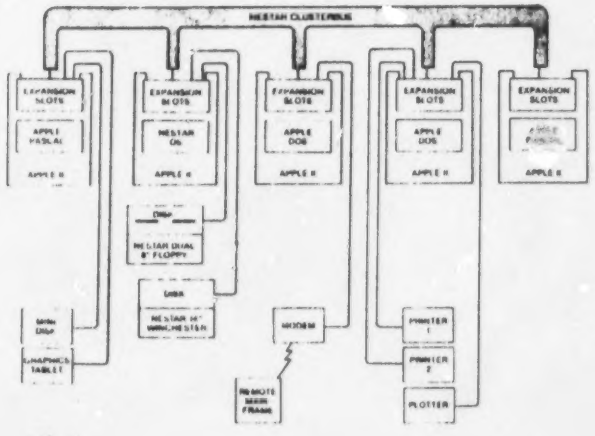
1. Plugs into any unused Apple peripheral slot.
2. Contains 1 Kbytes of RAM for transparent buffering, 2 Kbytes of ROM for network interface routines.
3. Obeys standard conventions for sharing the C800 address space.
4. Hardware comparator recognizes message addresses. Local address is set by a switch on the interface card.
5. Does not affect ClusterBus when powered off.
6. Simulates an Apple disk controller to allow autoboot across the network.
7. Compatible with local minidisks and peripherals which obey the standard conventions.

SOFTWARE SUPPORT

1. User station communications provided in ROM on the interface card.
2. User stations can run Apple DOS or Apple Pascal systems and transparently access shared central files. Necessary modifications to Apple-distributed software are supplied by Nestar.
3. The controller runs proprietary Nestar operating system which manages the central resources.
4. Utility programs are provided for maintenance of central disk subsystems. (Floppy disk formatting and testing, disk backup, etc.)

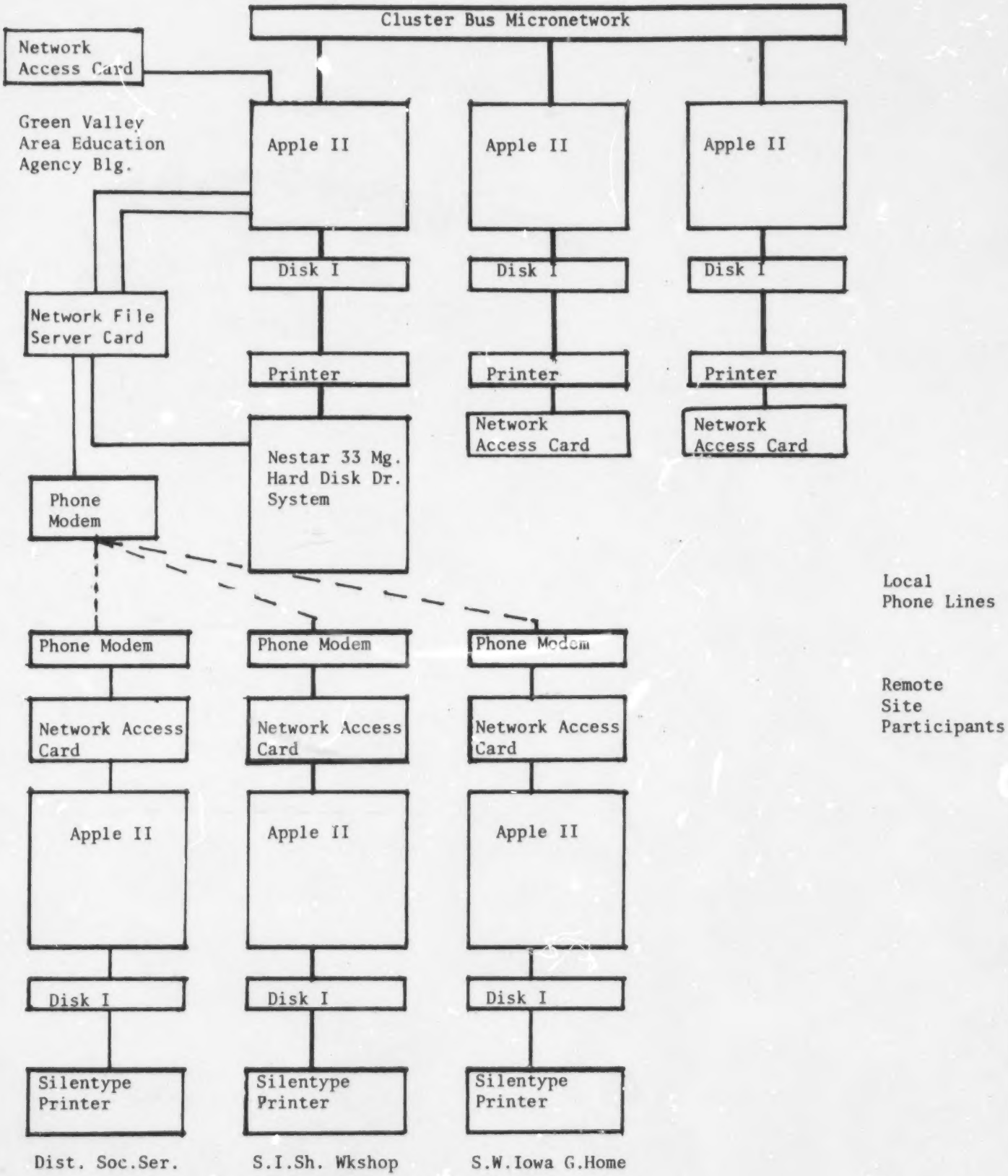
Specifications subject to change without notice.

Nestar's Clustershared™ computer system is composed of up to 65 independent Apple II microcomputers in a local communications, data, and resource sharing network.



NESTAR SYSTEMS INCORPORATED 430 Sherman Avenue, Palo Alto, California 94306, (415) 327-0125

REV2


Cluster Bus Micronetwork
Network Access Card
Green Valley Area Education Agency Blg.
Apple II
Apple II
Apple II
Disk I
Disk I
Disk I
Network File Server Card
Printer
Printer
Printer
Network Access Card
Network Access Card
Nestar 33 Mg. Hard Disk Dr. System
Phone Modem
Local Phone Lines
Phone Modem
Phone Modem
Phone Modem
Remote Site Participants
Network Access Card
Network Access Card
Network Access Card
Apple II
Apple II
Apple II
Disk I
Disk I
Disk I
Silentype Printer
Silentype Printer
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